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CLAIMS

I claim:

1. A composite catheter stabilizing device, comprising:

5 (a) a cuff having a first edge and a second edge; the cuff being configured for positioning around a catheter;

10 (b) a first end piece having an internal surface defining a tubular opening extending therethrough and an external surface tapered from a first side abutting the first edge of the cuff toward a second side; and

15 (c) a second end piece having an internal surface defining a tubular opening extending therethrough and an external surface tapered from a first side abutting the second edge of the cuff toward a second side, wherein the second sides of the first and second end pieces are configured for receiving a catheter in facing engagement.

20 2. The device according to claim 1, wherein the first and second end pieces are frustoconical and the openings in the first and second end pieces are cylindrically shaped.

25 3. The device according to claim 2, wherein the internal surfaces of the first and second end pieces are configured for being flush with the catheter when the catheter is within the cylindrically shaped openings.

4. The device according to claim 1, wherein the cuff comprises a biocompatible fabric capable of tissue ingrowth.

30 5. The device according to claim 1, wherein the first and second end pieces comprise a silicone material.

6. The device according to claim 1, wherein the first sides of the first and second end pieces have a generally annular cross section and an outer diameter which is substantially the same as an outer diameter of the cuff.

35 7. A catheter assembly, comprising:

(a) a catheter having an external surface and at least one lumen extending therethrough; and

(b) a catheter stabilizing device, comprising

(i) a cuff having a first edge and a second edge, the cuff adhered to the external surface of the catheter;

(ii) a first end piece having an external surface and an internal surface configured to conform to the external surface of the catheter in facing engagement, the external surface being tapered from a first side abutting the first edge of the cuff to a second side; and

(iii) a second end piece having an external surface and an internal surface configured to conform to the external surface of the catheter in facing engagement, the external surface being tapered from a first side abutting the second edge of the cuff to a second side.

8. The catheter assembly according to claim 7, wherein the cuff is adhered to the external surface of the catheter by an adhesive.

9. The catheter assembly according to claim 7, wherein the first and second end pieces comprise a heat moldable material and are molded onto the external surface of the catheter.

10. A method for making a catheter assembly having a composite catheter stabilizing device, comprising the steps of:

(a) affixing a cuff having a first edge and a second edge to an external surface of a catheter;

(b) positioning a first end piece having an internal surface, a first side and a second side around the external surface of the catheter such that the first side of the first end piece abuts the first edge of the cuff;

(c) positioning a second end piece having an internal surface, a first side and a second side around the external surface of the catheter such that the first side of

the second end piece abuts the second edge of the cuff, wherein the first and second end pieces are tapered from the first sides to the second sides;

(d) affixing the first and second end pieces to the external surface of the catheter such that the second sides of the first and second end pieces are in facing engagement with the external surface of the catheter.

11. The method according to claim 10, further comprising wrapping a tissue ingrowth fabric cuff having an adhesive layer applied to a surface of the cuff around the external surface of the catheter, wherein the adhesive layer affixes the surface of the cuff to the catheter.

12. The method according to claim 10, further comprising heat molding the first and second end pieces to the external surface of the catheter.

13. A method for making a catheter assembly having a composite catheter stabilizing device, comprising the steps of:

(a) forming a unitary catheter having
(i) an external surface;
(ii) a lumen extending therethrough;
(iii) a first end piece tapered from the external surface of the catheter to a first side lying in a plane perpendicular to a longitudinal axis of the catheter;
and

(iv) a second end piece tapered from the external surface of the catheter to a first side lying in a plane perpendicular to the longitudinal axis of the catheter, the first side of the first end piece facing and spaced from the first side of the second end piece; and

(b) affixing a cuff having a first edge and a second edge to the external surface of the catheter between the first and second end pieces such that the first edge of the cuff abuts the first side of the first end piece and the second edge of the cuff abuts the first side of the second end piece.

14. The method according to claim 13, further comprising heat molding the unitary catheter as a single unit..

5 15. A composite catheter stabilizing device, comprising:

(a) a unitary base having an internal surface defining a tubular opening extending therethrough and having a first end piece, a second end piece, and an annular central portion positioned between the first and second end pieces, wherein the first end piece has an external surface tapered from a first side toward a second side, the second end piece has an external surface tapered from a first side to a second side and the internal surface configured for positioning around a catheter;

15 (b) a cuff having a first edge abutting the first side of the first end piece and a second edge abutting the first side of the second end piece, the cuff being configured for positioning around the central portion of the base.

20 16. A method for making a catheter assembly having a composite catheter stabilizing device, comprising the steps of:

(a) affixing a base having an internal surface defining a tubular opening and having a first end piece, a second end piece and a central portion to the external surface of a catheter such that the internal surface of the base is in facing engagement with the external surface of the catheter, wherein external surfaces of the first and second end pieces are each tapered from a first side to a second side;

30 (b) affixing a cuff having a first edge and a second edge to an external surface of the central portion of the base such that the first edge of the cuff abuts the first side of the first end piece and the second edge of the cuff abuts the first side of the second end piece.

17. A device for removing a catheter assembly having a catheter stabilizing device including a tissue ingrowth cuff from a subcutaneous location, the device comprising:

5 (a) a handle having a proximal end, a distal end;

(b) a head attached to the distal end of the handle, the head having an external gripping surface, wherein the head is sized for inserting into a lumen of a
10 catheter assembly having a tissue ingrowth cuff for gripping an internal surface of the catheter assembly within the cuff and dislodging the cuff from surrounding tissue.

18. The device according to claim 17, wherein the head further comprises a tapered end for more easily
15 inserting the head into the lumen of the catheter assembly.

19. The device according to claim 17, wherein the handle and the head comprise a material selected from the group consisting of metal and plastic.

20. The device according to claim 17, wherein the external gripping surface of the head is threaded for
20 screwing into the lumen of the catheter.

21. The device according to claim 17, wherein the head has a cross-sectional diameter which is greater than a cross-sectional diameter of the handle, wherein the
25 diameters are measured in a plane perpendicular to the longitudinal axis of the device.

22. A method for removing a catheter assembly having a catheter stabilizing device including a tissue ingrowth cuff ingrown into a subcutaneous location by use of
30 a device having a handle and a head having an external gripping surface, comprising the steps of:

(a) inserting the head of the device into a proximal end of a lumen extending through the catheter assembly;

35 (b) inserting the head further into the lumen by pushing the handle of the device until a distal end of

the head is substantially longitudinally aligned with a distal end of the catheter stabilizing device; and

(c) pulling the handle, to dislodge the tissue ingrowth cuff and to remove the catheter assembly from the subcutaneous location.

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23. The method according to claim 22, wherein when the external gripping surface of the head is threaded, step (b) further comprises rotating the handle while inserting the head such that the head is screwed into the lumen.

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